REMARKS

Claims 1-4 stand rejected under 35 USC 112, second paragraph. Applicants have mooted the rejection by amending claim 1 to recite "an infrared sensor to detect infrared rays passing through the gap," thereby clarifying how the gap is utilized to detect the temperature of the object.

Claims 1-4 stand rejected under 35 USC 102(b) on Sakagami (U.S. Patent No. 6,882,807). Applicants respectfully traverse the rejection.

Claim 1 recites that "a gap is formed between conductor sections of the coil through which electric currents respectively flow in the same direction." Sakagami does not disclose or suggest such a feature. The gap (designated "G" by the Examiner) shown in Figure 19 of Sakagami is a gap formed between conductor sections of a coil through which electric currents flow in opposite directions. As described at col. 22, line 19, through col. 23, line 64, of Sakagami, the gap G is formed between the two halves of coil 403. The gap is formed such that the current flowing through the left side of the coil (as shown in Figure 19) would flow into the Figure while the current flowing through the right side of the coil would flow out from the Figure or vice versa. This configuration is more clearly seen in Sakagami's Figure 20A where the coil 403 is shown to have a single gap which is located between its two halves, and each half is shown to apply an opposite magnetomotive force NI resulting from current I flowing in opposite directions through an equal number of turns N.

Additionally, Sakagami does not disclose or suggest the use of an infrared sensor to detect infrared rays passing through the gap as recited in claim 1.

Consequently, claim 1 is allowable over Sakagami. Claims 2-4 and new claim 14 depend from claim 1 and are therefore also allowable over claim 1. Applicants solicit an early action allowing the claims.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicants petition for any required relief, including extensions of time, and authorize the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing Docket No. 325772035400.

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